

STOCKPILE REPORT

to the Congress



JULY - DECEMBER 1960

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE
MOBILIZATION**

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**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF CIVIL AND DEFENSE MOBILIZATION
WASHINGTON 25, D.C.**

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OFFICE OF THE DIRECTOR

April 1961

The Honorable
The President of the Senate

The Honorable
The Speaker of the House of Representatives

Sirs:

There is presented herewith the semiannual report to the Congress on the strategic and critical materials stockpiling program for the period July 1 to December 31, 1960. A classified statistical supplement to this report has been transmitted to you under separate cover.

This report is submitted pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress.

Sincerely,



Frank B. Ellis
Director

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Summary

This report covers principal activities in stockpile planning and operations for the period July 1 through December 31, 1960, under the provisions of Public Law 520 (79th Congress), The Strategic and Critical Materials Stock Piling Act.

Strategic stockpile inventories of the 76 materials on the stockpile list as of December 31 approximately equaled or exceeded maximum objectives for 51 materials and basic objectives for 62 materials. Additional quantities in other Government inventories, if added to the strategic stockpile, would change these totals to 61 maximum objectives and 68 basic objectives. The reduction during the six months' period in the number of objectives achieved is accounted for by revision of objectives and reclassification of inventories. Quantities on order would complete 2 additional maximum objectives and 3 additional basic objectives.

Group II of the List of Strategic and Critical Materials--for which there were no stockpile objectives--was automatically abolished on December 27, 1960, when basic and maximum stockpile objectives were established for phlogopite block mica. Wool and muscovite block mica, stained B and lower, were removed from the list on July 7 and September 27, 1960, respectively.

At the end of the report period the total strategic stockpile inventory of specification-grade materials was valued at \$5.55 billion on the basis of December 31, 1960, market prices. Application of the inventory to the stockpile objectives is shown in Chart 1.

Materials valued at approximately \$6.4 million were delivered to the strategic stockpile, as a result of previous commitments. Of this amount, \$295,000 was applicable to strategic stockpile objectives in effect as of December 31; the remainder was acquired under previously higher objectives.

No commitments for additional quantities of materials were executed during the six months' period for the strategic stockpile. However, an agreement was reached that the Government contract for operation of the Rolla, North Dakota, jewel bearings production plant would be extended through June 1961. Materials on order for the strategic stockpile at the end of the period were valued at \$9.9 million, with \$1.1 million applicable to stockpile objectives. This increase over the \$5.9 million value shown as of June 30 is a result of revised estimates of deliveries to be made under foreign aid program development contracts previously executed.

Reduction of commitments between July and December for deliveries of materials to the strategic stockpile and Defense Production Act inventories in excess of maximum objectives, reduced Government cash requirements by approximately \$19,659,000, bringing total reductions since the beginning of fiscal year 1958 to \$393,715,000.

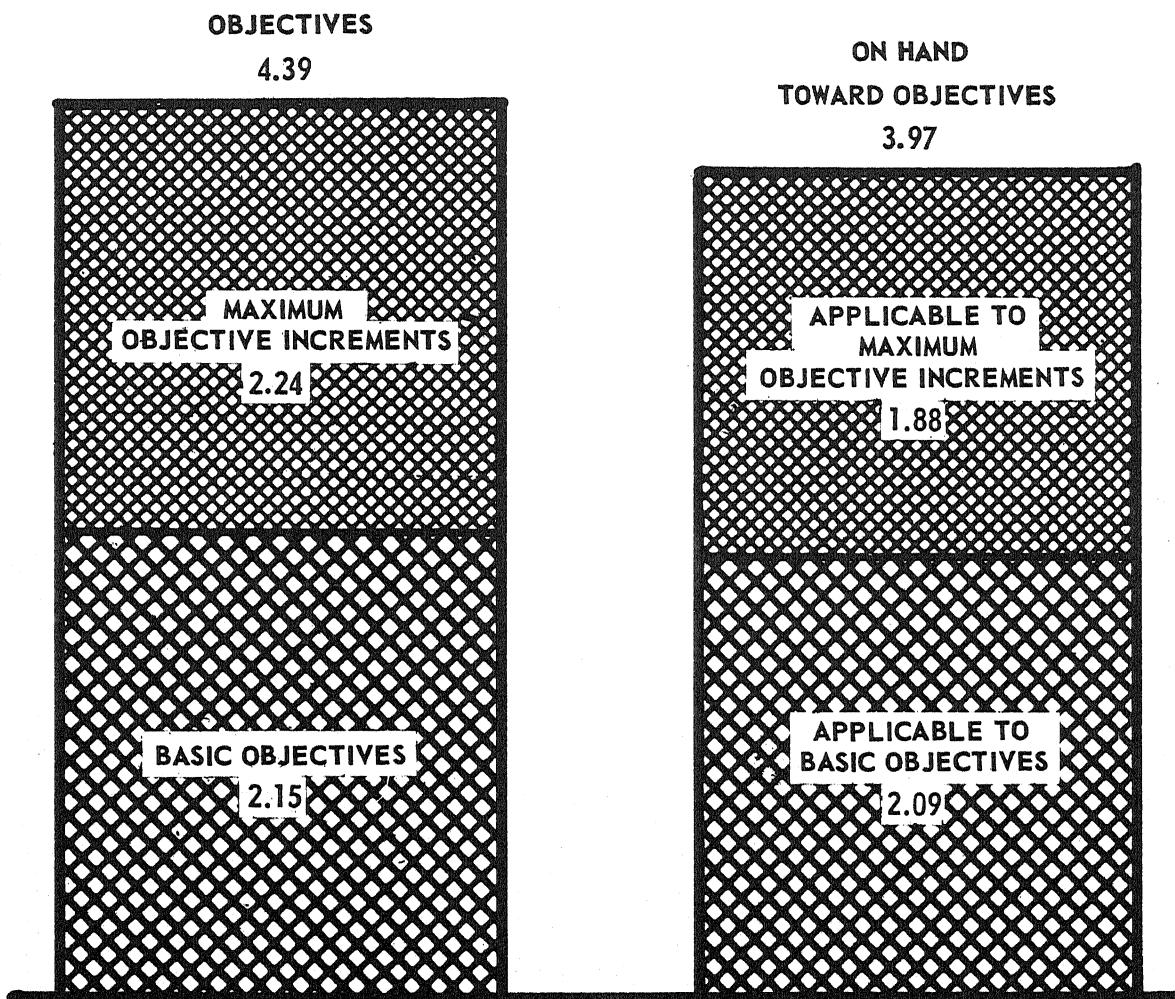
Sales commitments for disposal of off-grade and excess materials from the strategic stockpile and DPA inventories for the six months' period totaled about \$37 million, with approximately \$28 million of this representing disposals from the strategic stockpile. Sales contracts over the last five years for disposal of materials from Government inventories have amounted to more than \$170 million, excluding sales of the U. S. Government's former nickel production in Cuba.

CHART 1

STOCKPILE OBJECTIVES AND APPLICABLE STRATEGIC STOCKPILE INVENTORIES

AS OF DECEMBER 31, 1960

(IN BILLIONS OF DOLLARS, BASED ON DECEMBER 31, 1960 MARKET PRICES)



Quantities in excess of certain maximum objectives, valued at \$1.58 billion and outstanding commitments of \$9.9 million are not included.

Status of Strategic Stockpile Inventories

ACHIEVEMENT OF STOCKPILE OBJECTIVES

On December 31, 1960, as shown by Table A, strategic stockpile inventories of materials for which there are official stockpile objectives equaled or exceeded the maximum objectives for 51 materials and the basic objectives for 62 materials. Total dollar values of the objectives and applicable inventories are shown in Chart 1.

Quantities of materials in other Government-owned inventories, if transferred to the strategic stockpile, would increase to 61 the number of maximum objectives and to 68 the number of basic objectives met by total quantities on hand as of December 31. Quantities on order would complete 2 additional maximum objectives and 3 additional basic objectives.

The reduction during the six months' period in the number of objectives achieved is accounted for by revision of objectives and reclassification of inventories.

Total specification-grade inventories of materials in the strategic stockpile for which there are basic and maximum objectives, at the end of the report period were valued at \$5.55 billion on the basis of December 31 market prices, compared with a June 30, 1960, market valuation of \$6.0 billion and an acquisition cost of \$5.8 billion. The greater part of the change in market value is due to reduced prices for copper, lead, zinc, and rubber. Excess specification-grade inventories for some of the materials, representing quantities acquired against previously higher objectives, are now valued at \$1.58 billion as against \$1.7 billion shown on June 30.

Table A, following, shows the List of Strategic and Critical Materials for Stockpiling. Inasmuch as Group II (materials without objectives) was eliminated during the reporting period, the list is now comprised of only those materials for which there are established stockpile objectives, as explained under "Stockpile Reviews" under "Activities for the Period July-December 1960."

Achievement of stockpile objectives is shown in Table A only if the materials are actually in the strategic stockpile. However, substantial quantities of some of these same materials are still being delivered to the Defense Production Act inventory as well as to Government inventories being acquired by the barter of surplus agricultural commodities for strategic materials. By footnotes it is shown when these inventories, if combined with strategic stockpile quantities, would complete the stockpile objectives. Also footnoted are those materials for which upgrading objectives in effect as of December 31 had not been achieved. (For a dollar value

summary of the various Government inventories, see Appendix C.)

TABLE A

List of Strategic and Critical Materials for Stockpiling and Achievement of Stockpile Objectives

Materials	Strategic stockpile inventory equals or exceeds--	
	Basic objective	Maximum objective
1. Aluminum.....	x	(¹)
2. Aluminum Oxide, Fused, Crude.....	x	x
3. Antimony.....	(²)	
4. Asbestos, Amosite.....	(²)	
5. Asbestos, Chrysotile.....		
6. Bauxite, Metal Grade, Jamaica Type.....	(¹)	(¹)
7. Bauxite, Metal Grade, Surinam Type.....	x	(¹)
8. Bauxite, Refractory Grade.....	x	
9. Beryl.....	x	x
10. Bismuth.....	(¹)	
11. Cadmium.....	x	x
12. Castor Oil.....	x	x
13. Celestite.....		
14. Chromite, Chemical Grade	x	
15. Chromite, Metallurgical Grade.....	x	x
16. Chromite, Refractory Grade.....	x	x
17. Cobalt.....	x	
18. Columbium.....	x	(³) x
19. Copper.....	x	(³) x
20. Cordage Fibers, Abaca...	x	x
21. Cordage Fibers, Sisal...	x	x
22. Corundum.....	x	x
23. Diamond Dies, Small....		
24. Diamond, Industrial: Crushing Bort.....	x	x
25. Diamond, Industrial: Stones.....	x	(¹)
26. Feathers and Down, Waterfowl.....	x	x
27. Fluorspar, Acid Grade...	x	x
28. Fluorspar, Metallurgical Grade.....	x	x
29. Graphite, Natural--Ceylon, Amorphous Lump....	x	x
30. Graphite, Natural--Madagascar, Crystalline	x	x
31. Graphite, Natural--Other than Ceylon and Madagascar, Crystalline....	x	x

Materials	Strategic stockpile inventory equals or exceeds--	
	Basic objective	Maximum objective
32. Hyoscine.....	x	x
33. Iodine.....	x	
34. Jewel Bearings.....	x	x
35. Kyanite-Mullite.....	x	x
36. Lead.....	x	x
37. Magnesium.....	x	x
38. Manganese, Battery Grade, Natural Ore.....	x	x
39. Manganese, Battery Grade, Synthetic Dioxide.....	x	x
40. Manganese, Chemical Grade, Type A Ore.....	x	x
41. Manganese, Chemical Grade, Type B Ore.....	(¹)	
42. Manganese, Metallurgical Grade.....	x	(¹) (³)
43. Mercury.....	x	x
44. Mica, Muscovite Block, Stained A/B and Better	x	(¹)
45. Mica, Muscovite Film, First and Second Qualities.....	x	(¹)
46. Mica, Muscovite Splitting.....	x	x
47. Mica, Phlogopite Block.....	x	x
48. Mica, Phlogopite Splittings.....	x	x
49. Molybdenum.....	x	(³)
50. Nickel.....	x	x
51. Opium.....	x	x
52. Platinum Group Metals, Iridium.....	x	x
53. Platinum Group Metals, Palladium.....	(¹)	(¹)
54. Platinum Group Metals, Platinum.....	x	x
55. Pyrethrum.....	x	x
56. Quartz Crystals.....	x	x
57. Quinidine.....	x	x
58. Rare Earths.....	x	x
59. Rubber, Crude Natural.....	x	(²)
60. Rutile.....	x	
61. Sapphire and Ruby.....	(¹)	
62. Selenium.....	x	
63. Shellac.....	(¹)	(¹)
64. Silicon Carbide, Crude.....	x	x
65. Silk Noils.....	(²)	(²)
66. Silk, Raw.....	x	x
67. Sperm Oil.....	x	x
68. Talc, Steatite, Block and Lump.....		

Materials	Strategic stockpile inventory equals or exceeds--	
	Basic objective	Maximum objective
69. Tantalum.....	x	(¹) (³)
70. Tin.....	x	x
71. Tungsten.....	x	(³) x
72. Vanadium.....	x	(³) x
73. Vegetable Tannin Extract, Chestnut.....	x	x
74. Vegetable Tannin Extract, Quebracho.....	x	x
75. Vegetable Tannin Extract, Wattle.....	x	x
76. Zinc.....	x	x

¹Sufficient quantities are on hand in total Government-owned inventories to complete the objective.

²Total quantities on hand in and on order for all Government-owned inventories are sufficient to complete the objective.

³Although total quantities are equal to the maximum objective, the upgrading program has not been completed.

OTHER MATERIALS IN STRATEGIC STOCKPILE INVENTORY

In addition to inventories of specification-grade materials, the strategic stockpile contains (1) nonspecification grades of materials for which there are stockpile objectives and (2) materials that have been removed from the stockpile list and others for which there are no objectives. Quantities of these materials on hand as of December 31 are shown in Tables B and C, following. Sales commitments for some of these materials are shown under "Notes on Strategic and Critical Materials."

Most of the nonspecification-grade stocks were acquired by transfer of Government-owned surplus materials. Some of these were taken under stockpile specifications now outmoded for such reasons as changes in industry practice and technological advances; others were taken with a view to processing them to specification grade if this were necessary in order to meet emergency demands. Disposal action for some of these items has been authorized by OCDM. Changes since the last report are due principally to disposals, reclassifications in stockpile grades and processing of the material under the program for upgrading to higher-use forms.

TABLE B

*Strategic Stockpile Inventories of Nonspecification
Grades of Materials for Which There Are Stock-
pile Objectives*

As of December 31, 1960

Material	Unit	Quantity
Aluminum.....	ST	1,787
Bauxite, Metal Grade, Surinam Type.....	LDT	24
Bismuth.....	Lb.	36,580
Cadmium.....	Lb.	1,762,772
Celestite.....	SDT	28,816
Chromite, Metallurgical Grade..	SDT	177
Columbium.....	Lb.	1,362,318
Diamond Dies, Small.....	Pc.	8,375
Fluorspar, Acid Grade.....	SDT	4,960
Graphite, Natural--Ceylon, Amorphous Lump.....	ST	28
Graphite, Natural--Madagascar, Crystalline.....	ST	1,907
Graphite, Natural--Other than Ceylon and Madagascar, Crystalline.....	ST	672
Jewel Bearings.....	Pc.	14,715,973
Kyanite-Mullite.....	SDT	2,031
Magnesium.....	ST	5,803
Manganese, Metallurgical Grade	SDT	484,013
Mica, Muscovite Block, Stained A/B and Better.....	Lb.	348,443
Mica, Muscovite Film, 1st and 2d Qualities.....	Lb.	23,674
Mica, Phlogopite Block.....	Lb.	205,608
Nickel.....	Lb.	2,345,937
Opium.....	Lb.	2,180
Platinum Group Metals, Platinum	Tr.Oz.	4,930
Quartz Crystals.....	Lb.	923,556
Sapphire and Ruby.....	Kt.	1,786,244
Talc, Steatite Block and Lump..	ST	42
Tantalum.....	Lb.	1,857,394
Tungsten.....	Lb.	15,739,586
Vanadium.....	Lb.	475,737

Source of data: General Services Administration.

TABLE C

Strategic Stockpile Inventories of Materials for Which There Are No Stockpile Objectives

As of December 31, 1960

Material	Unit	Quantity
Agar.....	Lb.	48,081
Asbestos, Crocidolite (Soft)..	ST	1,567
Bristles, Hog.....	Lb.	476,510
Coconut Oil.....	Lb.	215,870,418
Cotton, Extra Long Staple.....	Bale	219,578
Diamond Dies, Other Than Small	Pc.	355
Diamond Tools.....	Pc.	64,178
Guayule Seeds.....	Lb.	17,426
Mica, Muscovite Block, Stained B and Lower.....	Lb.	4,633,543
Mica, Muscovite Film, 3d Quality.....	Lb.	493,736
Palm Oil.....	Lb.	35,151,494
Platinum Group Metals, Osmium	Tr.Oz.	27
Platinum Group Metals, Rhodium	Tr.Oz.	3,326
Platinum Group Metals, Ruthenium.....	Tr.Oz.	51
Poppy Seeds, Opium.....	Lb.	51,646
Quartz, Processed.....	Pc.	7,622,304
Quinine.....	Oz.	11,988,562
Quinine, Hydrochloride of....	Oz.	1,872,464
Silk Waste.....	Lb.	2,785,360
Talc, Steatite Ground.....	ST	6,285
Totaquine.....	Oz.	7,820,400
Zirconium Ore, Baddeleyite....	SDT	16,533
Zirconium Ore, Zircon.....	SDT	14,620

Source of data: General Services Administration.

Activities for the Period July-December 1960

STOCKPILE REVIEWS

The Office of Civil and Defense Mobilization took the following actions during the July-December period as a result of materials supply-requirements studies: increased one basic and one maximum objective, reduced one basic and one maximum objective, established basic and maximum objectives for one material (phlogopite block mica) that was transferred from Group II to Group I of the List of Strategic and Critical Materials for Stockpiling, and removed three materials from the List of Strategic and Critical Materials for Stockpiling (soft crocidolite asbestos from Group I, muscovite block mica, stained B and lower from Group II and wool from Group II). Studies with respect to minimum readiness inventories resulted in the increase of two subobjectives for advanced forms of stockpile materials and the establishment of 12 subobjectives for the upgrading of four stockpile materials.

The actions on wool and phlogopite and muscovite block mica completed a project that has been under way for several years--the elimination of Group II of the List of Strategic and Critical Materials for Stockpiling. These materials had been kept on the list, without stockpile objectives, pending determinations with respect to the potential emergency supply-requirements position. As a result of this action, the List of Strategic and Critical Materials for Stockpiling, shown in Table A of this report, no longer designates as Group I those materials for which there are official stockpile objectives.

PROCUREMENT

The Strategic Stockpile Procurement Directive for FY 1961 was issued to the General Services Administration early in December, calling for new purchases of only two materials, small diamond dies and jewel bearings. Included in the directive were authorizations for upgrading quantities of materials on hand, as follows: electrolytic copper to oxygen-free copper, and tungsten ores and concentrates to carbon-reduced and hydrogen-reduced tungsten metal powder and to ferrotungsten.

Some of the other materials for which basic and maximum stockpile objectives have not been met either are being acquired by barter or are listed for barter in the event an opportunity for acquisition by that means should arise. The materials acquired by barter are ultimately placed in the supplemental, not the strategic, stockpile. When barter is feasible, OCDM usually does not authorize GSA to acquire identical materials by use of Stock Piling Act funds. An exception has

been the effort to maintain a domestic mobilization base in the production of chrysotile asbestos. However, authorization for additional procurement of asbestos was withheld from the FY 1961 directive pending evaluation of domestic suppliers' performance under earlier contracts.

Stockpile purchases have contributed to the development of a mobilization base for production of jewel bearings, but producers of small diamond dies are still having difficulty meeting stockpile specifications.

During the July-December period, the Department of Agriculture negotiated 35 barter contracts for strategic materials valued at approximately \$39.6 million. At the end of the period barter inventories (CCC and supplemental stockpile) were valued at \$879 million, on the basis of December 31 market prices. Of this amount, about \$213 million was applicable to stockpile objectives although the materials were not transferred to the strategic stockpile.

No new commitments for additional deliveries to the strategic stockpile were executed during the July-December period. The market value of outstanding deliveries, however, was estimated on December 31 at \$9.9 million, compared to the \$5.9 million value shown as of June 30, 1960. This results from a revision of estimated deliveries to be made under foreign aid program development contracts previously executed.

Of the \$6.4 million in materials delivered to the strategic stockpile during the six months' period, only \$295,000 was applicable to stockpile objectives. The excess deliveries of approximately \$6.1 million, comprised of \$1.8 million from open market purchases and \$4.3 million from foreign aid programs, were the result of commitments made against stockpile objectives that were later reduced.

PURCHASE SPECIFICATIONS AND SPECIAL INSTRUCTIONS

During the July-December period, the Office of Civil and Defense Mobilization issued one new and five revised purchase specifications. Four new container specifications were developed and issued to be used in protecting stockpiled materials from contamination and from losses by wind and rain during long-term periods of storage, and five container specifications were canceled. (See Appendix B.) In addition, two new and eleven revised special instructions were issued to the General Services Administration, giving guidance on the stockpiling of strategic and critical materials.

REDUCTION OF COMMITMENTS

Government commitments for delivery of materials that would be surplus to maximum stockpile objectives were reduced during the six months' period ending December 31, by \$19,659,000. All but \$6,000 of this represented Defense Production Act contract reductions.

Total reductions for strategic stockpile and DPA inventories, from the beginning of fiscal year 1958 to December 31, 1960, amounted to \$393,715,000 with \$57,877,000 of this for strategic stockpile commitments and \$335,838,000 for DPA commitments.

DISPOSAL PROGRAMS

Notices of intent to dispose of the following materials from the strategic stockpile were published within the period of this report: metallurgical chromite, cobalt, magnesium scrap, nickel, quinidine, quinine, silk waste and noils and vanadium. These activities are summarized later, under the section, "Notes on Strategic and Critical Materials."

During the July-December period, sales commitments for disposal of excess and off-grade materials from the strategic stockpile and DPA inventories totaled approximately \$37 million. Of this amount, about \$28 million represented disposals from the strategic stockpile and about \$9 million from the DPA inventory (exclusive of the sale of nickel from Government plant operations). The materials involved were agar, alumina, hog bristles, coconut oil, gem diamonds, feathers and down, guayule seeds, magnesium scrap, mullite, nickel, opium poppy seeds, quartz crystals, rubber, talc, tin alloy and zirconium ores. Negotiations were in process during the period for disposal of some materials for direct Government use.

Over the last five years, sales contracts for disposal of excess and off-grade materials from Government inventories have totaled more than \$170 million exclusive of sales of the U. S. Government's former nickel production in Cuba.

STOCKPILE STORAGE AND MAINTENANCE

Storage

Strategic and critical materials were stored at 215 locations on December 31, as follows:

Type of facility	Number of locations	Net change in last 6 months
Military depots.....	59	-3
GSA depots.....	22	+2
Other Government-owned sites.....	10	+2
Industrial plantsites.....	39	0
Leased commercial sites....	16	+3
Commercial warehouses.....	69	-3
Port storage sites.....	0	-1
Total.....	215	0

As of December 31, 1960, approximately 42.7 million tons of strategic materials were stored at these facilities, with over 26 million tons of this representing the strategic stockpile. The total Government inventories occupied approximately 25.3 million gross square feet of warehouse space and 57 million gross square feet of open space. This is equal to 580 acres of covered space and 1,308 acres of open space. Of the total tonnage now in storage, approximately 1.8 million tons were handled and stored during this reporting period, or about 36,000 carloads. This would represent a train about 340 miles long. Storage costs vary with the type of material stored and the type of facility used; however, the weighted average storage cost for all materials during fiscal year 1960 was approximately \$0.273 per ton-year. More than 12 million tons of ores and minerals are stored at the 39 industrial plantsite locations, within a short distance of prospective consuming plants. Plantsite storage not only makes the material readily available in case of national emergency but in effect also stockpiles transportation. Plantsite storage arrangements are carried out under long-term lease arrangements, at the nominal weighted average cost of only one-tenth of a cent per ton per year.

General Services Administration assumed custody of two former Department of Defense facilities, at which more than one million tons of strategic materials are stored. These materials occupy approximately 257,000 gross square feet of warehouse space and 2 million gross feet of open space. Negotiations are under way for the transfer of a portion of an additional Department of Defense facility at which a substantial tonnage of rubber is stored. This transaction, for which a target date of July 1, 1961, has been placed, involves the transfer of about 600,000 gross square feet of warehouse space.

Four new storage sites were established in Texas and Arizona, near the Mexican Border, for acid-grade fluorspar being acquired from Mexico under the Department of Agriculture's barter program. As is indicated in Table A of this report, the maximum stockpile objective for this material has been reached. Proportionate distribution to consuming areas has been completed. Therefore, in storage planning the principle of least cost has been applied to all receipts in excess of the objective and storage sites have been arranged so as to preclude large inland transportation costs. This action is in accordance with the planning principle applied to materials acquisitions that are in excess of maximum objectives and for which distribution to consuming areas has been completed.

Maintenance

An important phase of the stockpile storage functions is the preservation and maintenance of materials in storage so that each will be readily usable in case of national emergency. This involves the repackaging of materials from substandard containers that have failed after many years of stor-

age; preparation of open-area storage sites to prevent earth contamination; providing protective covering for ores and minerals stored in the open to prevent wind and water erosion, and airborne contamination; general maintenance of storage facilities; and improvement of fire protection and security facilities. During this reporting period, 132 new preservation and maintenance projects were initiated, and 186 projects previously authorized were completed. A particularly troublesome aspect of this phase of the operation has been the development of a suitable method and protective covering for storing acid-grade flourspar at reasonable cost. This powdery material is highly susceptible to wind and water erosion. The problem now appears to have been solved, however, through the use of a covered trench. After the trench is excavated the spoil is used to make berms at the sides and ends. The bottom of the trench is then paved with bituminous concrete and the sides are lined with asphalt. After the material is placed into the trench the top is covered with polyethylene film, wire mesh, and an asphalt emulsion into which fiber glass is incorporated.

Physical Inventorying

At the beginning of this reporting period, the handling and counting operation involved in taking the physical inventory of stockpile materials had been completed at all but five storage depots. Inventorying was completed at these five depots during this period. The project now requires only the completion of reports, analysis, and revision of records as necessary.

Radiological Safety Program

Training courses on radiological safety procedures were conducted at 10 GSA depots. A program was developed for the extension of the training throughout all Defense Materials Service depots by the trainees from these courses.

DECLASSIFICATION OF STOCKPILE DATA

A periodic interagency review of stockpile data security classifications was conducted during this reporting period. It was determined that release of data pertaining to the strategic stockpile other than those declassified in 1958 would be detrimental to the national security. One of the principal reasons for continued classification of these data is that the strategic stockpile program reflects a detailed appraisal of the types and magnitudes of materials needed for the national security and of the availability of supply in an emergency to meet these needs. Determinations involve assumptions with respect to the character of the defense effort, including plans for protection of shipping in an emergency. In view of these considerations, the necessity for stockpile data classification cannot be judged solely by the significance of quantities planned for and acquired for the strategic stockpile.

STOCKPILE PROGRAM IN RELATION TO BALANCE-OF-PAYMENTS PROBLEM

All agencies having a responsibility in the strategic and critical materials stockpile program have agreed to take the balance-of-payments problem into account in reviews of stockpile programs. Some aspects of the stockpile program already have made a contribution toward alleviation of the problem; for example: reduction or cancellation of commitments for delivery of materials to strategic stockpile and DPA inventories that would be in excess of stockpile objectives, disposal of surplus and obsolete materials from the strategic stockpile and DPA inventories (some of which are wholly import items—e.g., coconut oil, palm oil, rubber), and substitution of barter transactions for dollar payments for materials needed against strategic stockpile objectives.

Notes on Strategic and Critical Materials

ABRASIVES

At OCDM's suggestion, through its membership on the Supplemental Stockpile Advisory Committee on Barter, the Department of Agriculture is planning to acquire by barter grain sizes of aluminum oxide and silicon carbide instead of the crude forms. With the assistance of the Business and Defense Services Administration and industry representatives, OCDM is developing specifications for the specific grain sizes.

AGAR

During the period July to December 1960, 75,300 pounds of agar was sold from the stockpile, for approximately \$33,000. There remains for disposal about 20,560 pounds, which will be offered in the spring of 1961.

ALUMINA

Commitments were made during the period of this report for the sale of 3,400 short tons of calcined alumina, for about \$159,000. The approximately 1,600 short tons available for sale will be offered on a negotiated basis.

ALUMINUM

Between July and December, 24, 300 short tons of primary aluminum was put to the Government under the Defense Production Act supply expansion program.

ASBESTOS

Soft crocidolite asbestos was removed from the List of Strategic and Critical Materials for Stockpiling, September 27, 1960.

Harsh crocidolite is not on the List of Strategic and Critical Materials for Stockpiling, but the material is being acquired for the supplemental stockpile under the program for bartering surplus agricultural commodities for strategic materials. Harsh crocidolite is used in asbestos-cement products, especially pipe, and in plastics. The harsh and the soft crocidolite are not interchangeable.

BERYLLIUM

Under the Domestic Beryl Purchase Program approximately 130 short tons of domestically produced material was purchased by the Government during the last half of calendar year 1960, making a total of 2,720 short tons delivered thus far out of the 4,500 tons allowed by the termination date of June 30, 1962.

The Department of the Interior continued with considerable success its intensive search for beryllium in domestic mineral deposits and its research on milling methods for recovering beryllium minerals and on techniques to produce and purify beryllium metal.

Numerous individuals as well as firms also were interested in beryllium, and a few potentially important deposits were undergoing detailed exploration in Utah, Nevada, New Mexico, South Dakota and Colorado.

BRISTLES, HOG

One auction was held during the period, at which a total of 123,029 pounds was sold for \$1,602,875. Cumulative sales of hog bristles from the beginning of disposal sales in 1956 now total about 3,516,500 pounds, with total proceeds amounting to \$23,225,-000.

CADMIUM-MAGNESIUM

All bids received in September on the offering of 4,400 short tons of cadmium-magnesium bomb scrap were rejected as they did not represent an adequate return to the Government. In view of the increased interest in the new invitation sent out in October the time allowed for bids was extended to February 24.

About 400 short tons of magnesium scrap was sold for more than \$200,000 on a sealed bid basis early in September. A disposal notice for an additional 2,624 short tons was published in the Federal Register of December 14, 1960. When the six months' waiting period has expired, about 550 short tons of this material will be offered every six weeks. The six weeks' spacing of sales is primarily for the purpose of lessening the sales impact on the market, taking into consideration similar earlier sales of the same type by the Army.

CELESTITE

Stockpile purchase specifications for celestite were revised in September to require a minimum strontium sulfate content of 95 per cent. None of the material now in the strategic stockpile meets this specification. The stockpile was acquired after World War II by transfer from the Reconstruction Finance Corporation. There may be an opportunity to acquire replacement material through the barter of surplus agricultural commodities. For this reason and because of costs involved, there are no plans to benefitize the present stockpile inventory. Action toward disposal has therefore been authorized by OCDM.

CHROMIUM

A result of a study of the entire ferroalloys industry was the establishment of strategic stockpile subobjectives for five chromium products: low-carbon ferrochromium, high-carbon ferrochromium, low-carbon ferrochromium silicon, electrolytic chromium metal and aluminothermic chromium metal. While a formal subobjective had been previously established for only one of these materials, inventories of all of them had been acquired against the overall stockpile objectives sufficient to cover the new objectives. Therefore, additional procurement is not necessary at this time.

No acceptable bids were received from GSA's two offers for sale of approximately 1,700 long tons of chromite stored at Butte, Montana.

Notice of disposal of an additional 89,750 long tons of chromite as well as 151,000 pounds of ferrochrome alloys was published in the Federal Register of September 27, 1960.

COBALT

A plan to dispose of approximately 168,808 pounds of partially processed cobalt ores, sludges, oxides, carbonates and metallics, was published in the Federal Register of September 29, 1960.

COCONUT OIL

Commitments for the sale of coconut oil from the stockpile during July to December amounted to 39,179,200 pounds for a total of \$5,016,800. The remaining 198,000,000 pounds authorized for disposal will be offered at the rate of approximately 14,000,000 pounds every 6 weeks.

COLUMBIUM AND TANTALUM

In a review of the potential emergency supply and requirements for columbium and for tantalum, subobjectives were established for six processed forms of these materials: columbium metal, columbium carbide powder, ferrocolumbium, ferrotantalum-columbium, tantalum metal and tantalum carbide powder. Specifications for these processed forms are being developed and any necessary procurement will not be undertaken until they are completed. It is expected that some of the material already in the strategic stockpile, acquired against the overall stockpile objectives, will meet the specifications.

COPPER

The stockpile subobjective for oxygen-free copper was revised on the basis of a review of the potential emergency supply-requirements position.

CORDAGE FIBERS

Approximately 3,515,000 pounds of abaca with a contract value of \$917,000 and 5,182,000 pounds of sisal with a value of \$614,000 were rotated during the July-December period.

Late in December a letter was sent to all cordage fiber consumers and importers outlining the Government's rotation plans for 1961, together with a statement of the abaca and sisal available for rotation and the latest report of the effect of long-term storage.

COTTON

On December 31, legislation was still pending in the Congress for disposal of the approximately 220,000 bales of extra long staple cotton surplus to stockpile needs since the removal of cotton in March 1957 from the List of Strategic and Critical Materials for Stockpiling.

Of the 50,000 bales of extra long staple cotton transferred from the stockpile to the Department of Agriculture for disposal, with Congressional approval (Public Law 85-96), approximately 22,000 bales have been sold, with a return of approximately \$6,000,000.

CRYOLITE

GSA continued its efforts to dispose of the remaining 32,000 short tons of synthetic cryolite available for sale from the Defense Production Act inventory. This material, which was acquired under the DPA expansion program, is not on the stockpile list. Offers were made to negotiate sales on the basis of present market prices for imported material, adjusted to reflect the quality of the Government-owned material. A special effort is being made to interest aluminum companies contemplating new production facilities, as other aluminum manufacturers in the U. S. either produce their own cryolite or have contracted for purchase of imported material over a long period.

DIAMOND DIES

The percentage of rejections is still high for all current diamond die contracts for the strategic stockpile. For this reason, action under the fiscal year 1961 stockpile procurement directive for additional dies has been deferred until more information is available on the ability of suppliers to meet stockpile specifications.

DIAMONDS

During the period the Bureau of Customs sold at auction for GSA 47,044 carats of gem-quality, rough cuttable diamonds, for a total return of \$1,915,775. This completed the disposal of gem-quality diamonds held in the stockpile, with a total recovery of approximately \$2,977,000.

FEATHERS AND DOWN, WATERFOWL

The six months' notice on disposal of 1,930,000 pounds of excess feathers and down from the stockpile expired on December 9. As shown in the previous report, 1,180,500 pounds of this quantity were released for direct Government use and 10,775 pounds were sold at auction under a statutory authority permitting rotation without replacement of

excess perishable material. In December, 61,800 pounds were sold at auction for \$102,000. These disposals were the result of a reduction in stockpile requirements. A study initiated during the period of this report indicates that acceptance of substitutes may further reduce requirements for waterfowl feathers and down in military sleeping bags.

GRAPHITE

Bids were invited on 740 short tons of stockpiled graphite which has been authorized for disposal. Several bids were received but were rejected because of the low prices offered. Efforts to sell this material will continue.

GUAYULE SEEDS

During the six months' period 1,466 pounds of guayule seeds were sold from the stockpile for \$150. Arrangements are being made to transfer to International Cooperation Administration for use in its foreign aid program the remaining 15,960 pounds authorized for disposal.

JEWEL BEARINGS

The Government program to increase the industrial utilization of jewel bearings produced at the Government-owned Turtle Mountain plant at Rolla, North Dakota, again was supported by the Department of Defense directives. Military procurement officers were instructed that new purchases of instruments requiring jewel bearings should utilize Rolla-produced bearings. Military specifications for jewel bearings are being revised to reflect industrial experience and to facilitate manufacturing capabilities. The Rolla plant continued to deliver bearings to the strategic stockpile. An agreement was reached in December that the Government contract for operation of the Rolla facility would be extended through June 1961.

An interagency task group chaired by a representative of the BDSA reviewed the sizes and types of jewel bearings used in the current production of essential civilian and military articles. Based on this study, a schedule of purchases of jewel bearings for the strategic stockpile was developed which would provide bearings in sizes not now available in the stockpile. Further, it was recommended that these special sizes be obtained from the Government-owned facility at Rolla, North Dakota, the only large-scale producing plant in the United States. This was done as a means of helping to keep the plant in operation as an important segment of the production mobilization base.

KYANITE-MULLITE

At the expiration of six months after the Federal Register notice of disposal of May 7, 1960, 1,627 short tons of kyanite and 2,036 short tons of synthetic mullite were offered for sale. No bids on the kyanite were received, but 1,050

short tons of the mullite was sold for \$35,050. Bids were to be invited again shortly after the end of this reporting period.

MAGNESIUM (See Cadmium-Magnesium)

MANGANESE

As a result of its studies on the provision of minimum readiness inventories of stockpile materials, OCDM established strategic stockpile sub-objectives for four processed forms of manganese: standard high-carbon ferromanganese, medium- and low-carbon ferromanganese, low-carbon silicomanganese and electrolytic manganese metal. Although quantities of some of these materials are in inventory, some procurement will be necessary. Purchase specifications are being reviewed.

MICA

Basic and maximum stockpile objectives were established for phlogopite block mica. This material had been held in Group II of the List of Strategic and Critical Materials for Stockpiling without a stockpile objective, pending a determination on the necessity of stockpiling against a potential emergency deficit. Only high-heat quality phlogopite will be credited toward the stockpile objectives.

Muscovite block mica, stained B and lower, was removed from Group II of the stockpile list. While this quality of mica does not meet the stockpile purchase specifications for muscovite block mica, the inventory had been retained to supplement specification-grade mica in strategic uses should it be needed in an emergency.

During the July-December period, approximately 1,000 tons of mica was purchased by and delivered to the Government, making a total of almost 22,000 tons delivered under the Domestic Mica Purchase Program.

NICKEL

A plan was approved to dispose of about 314 short tons of arsenical nickel ore and approximately 1,400 short tons of nickel speiss from the strategic stockpile. Notice of these disposals appeared in the Federal Register of August 2, 1960. About 7,292,000 pounds of nickel metal was sold from the Defense Production Act inventory, for \$5,396,080, making a total of almost 12,000,000 pounds disposed of out of the 19,000,000 pounds authorized by OCDM in January 1960. The metal is sold at market price on date of delivery. An additional 4,459,500 pounds of nickel from the DPA inventory, with a sales value of \$3,300,000, was disposed of during the period in settlement of contracts.

OPIUM POPPY SEEDS

During the six months' period 49,000 pounds of opium poppy seeds from the stockpile were disposed for \$1,240.

PALM OIL

No bids were received in response to invitations issued on November 28 for approximately 6,000,000 pounds of palm oil. Consumers stated that lack of interest was due to ample stocks on hand. This was the first offer out of the 37,609,878-pound stockpile on which notice of disposal was published May 28, 1960. Another offering will be made in July and the remaining quantity will be offered at the rate of from 4,000,000 to 6,000,000 pounds every six months.

QUARTZ CRYSTALS

Approximately 19,000 pounds of raw quartz crystals and 1,310,300 pieces of semiprocessed quartz crystals were sold during this period for \$34,840. Another 190,000 pieces of semiprocessed quartz crystals were offered but not sold.

QUINIDINE

Notice of disposal of 453,000 ounces of excess quinidine from the stockpile was published in the Federal Register on November 24. Action will be initiated at the end of the waiting period in May, for transfer to other Government agencies or for sale to industry in quantities not to exceed 100,000 ounces each six months.

QUININE

Notice of disposal of approximately 13,860,000 ounces of quinine from the stockpile was published in the Federal Register on August 10. This notice rescinded and superseded a notice of proposed disposition published in the Federal Register of April 1, 1959. At the end of the six months' waiting period action will be initiated to effect the release of the quinine to Government agencies for direct use or to sell it to industry. Quinine was removed in 1955 from the List of Strategic and Critical Materials for Stockpiling.

RUBBER

During this period GSA sold 24,562 long tons of rubber from the strategic stockpile, bringing the total sold under the disposal program to 97,871 long tons with a recovery of \$83,149,742. The disposal of rubber was approved by the Congress on May 4, 1960.

SPECIAL-PROPERTY MATERIALS

A number of Government agencies reported possible future requirements for high-heat and other

special-property materials during the period under review. While many materials received attention and some thorough requirements studies were initiated, no new material was added to the List of Strategic and Critical Materials for Stockpiling. In most cases it has been impossible thus far to obtain reasonably firm minimum requirements estimates which could be used in studies of the available supplies of the materials involved.

SILK

On August 24, 1960, a plan for disposal of approximately 1,768,539 pounds of silk waste and 1,450,000 pounds of silk noils was published in the Federal Register. GSA proposes to make the *silk waste* available at the expiration of the six months' waiting period for direct use of Government agencies or to offer it for sale on a competitive basis. A catalog listing the lots to be offered is being prepared. Disposal of the *silk noils* will require express approval of the Congress.

TALC

Approximately 2,380 short tons of ground talc was sold for \$14,230, out of a total of 6,285 short tons announced for disposal in the Federal Register of April 15, 1960. The remaining quantity will be offered at intervals of not less than six months.

TIN

The remaining 193 long tons of tin alloy (copan) was sold from the DPA inventory on a sealed bid basis late in August, with a recovery of \$363,479.

VANADIUM

On August 11, 1960, notice was published in the Federal Register of intention to dispose of approximately 35,350 pounds of fused vanadium pentoxide, 2,950 short tons of lead vanadate concentrates and 4,310 short tons of low-grade vanadium ore.

ZIRCONIUM ORES

Of the 15,902 short tons of zircon authorized in September 1959 for disposal, only 1,800 short tons had been sold as of December 31, 1960. None of the 16,533 tons of baddeleyite, disposal of which was also authorized in September 1959, had been sold. No acceptable bids were received in response to GSA's offers in November of 6,228 short tons of zircon concentrates, 1,723 tons of low-grade zircon-bearing material and 8,266 tons of baddeleyite.

Appendix A

FINANCIAL SUMMARY OF STOCKPILE OPERATIONS AS OF DECEMBER 31, 1960

TABLE 1 STATUS OF OBLIGATIONAL OPERATIONS

Under PL 117 and PL 520 for The National Stockpile

AUTHORITY	APPROPRIATED FUNDS <i>a/</i>	AUTHORIZATIONS FOR			TOTAL OBLIGATION AUTHORITY (CUMULATIVE) <i>d/</i>
		MAKING ADVANCE CONTRACTS <i>b/</i>	Liquidating OUTSTANDING ADVANCE CONTRACTS <i>c/</i>	AUTHORIZATIONS FOR LIQUIDATING OUTSTANDING ADVANCE CONTRACTS <i>e/</i>	
<u>Under PL 117 - 76th Congress</u>					
PL 361 - 76th Congress, August 9, 1939	\$ 10,000,000	\$	\$	\$	\$ 10,000,000
PL 442 - 76th Congress, March 25, 1940	12,500,000				22,500,000
PL 667 - 76th Congress, June 26, 1940	<u>47,500,000</u>				<u>70,000,000 <i>e/</i></u>
<u>Under PL 520 - 79th Congress</u>					
PL 663 - 79th Congress, August 8, 1946	100,000,000				100,000,000
PL 271 - 80th Congress, July 30, 1947	100,000,000	75,000,000	-		275,000,000
PL 785 - 80th Congress, June 25, 1948	225,000,000	300,000,000	-		800,000,000
PL 785 - 80th Congress, June 25, 1948	75,000,000	-	75,000,000		800,000,000
PL 119 - 81st Congress, June 23, 1949	40,000,000	270,000,000	-		1,110,000,000
PL 150 - 81st Congress, June 30, 1949	275,000,000	250,000,000	-		1,635,000,000
PL 150 - 81st Congress, June 30, 1949	250,000,000	-	250,000,000		1,635,000,000
PL 434 - 81st Congress, October 29, 1949	-	100,000,000 <i>f/</i>			1,535,000,000
PL 759 - 81st Congress, September 6, 1950	365,000,000	-	240,000,000		1,660,000,000
PL 759 - 81st Congress, September 6, 1950	240,000,000	125,000,000	-		2,025,000,000
PL 843 - 81st Congress, September 27, 1950	573,232,449 <i>g/</i>	-	-		2,598,232,449
PL 911 - 81st Congress, January 6, 1951	1,834,911,000	-	-		4,433,143,449
PL 253 - 82nd Congress, November 1, 1951	590,216,500	-	-		5,023,359,949
PL 253 - 82nd Congress, November 1, 1951	200,000,000	-	200,000,000		5,023,359,949
PL 455 - 82nd Congress, July 25, 1952	203,979,000	-	70,000,000		5,157,338,949
PL 176 - 83rd Congress, July 31, 1953	-	-	30,000,000		5,127,338,949
PL 428 - 83rd Congress, June 24, 1954	-	-	27,600,000		5,099,738,949
PL 663 - 83rd Congress, August 26, 1954	379,952,000 <i>h/</i>	-	-		5,479,690,949
PL 112 - 84th Congress, June 30, 1955	321,721,000 <i>i/</i>	-	-		5,801,411,949
PL 112 - 84th Congress, June 30, 1955	27,400,000	-	27,400,000		5,801,411,949
PL 844 - 85th Congress, August 26, 1958	3,000,000	-	-		5,804,411,949
Rescinded by PL 255 - 86th Congress, September 14, 1959	-58,370,923 <i>j/</i>	-	-		5,746,041,026
PL 626 - 86th Congress, July 12, 1960	30,000,000	-	-		30,000,000
Total PL 520	5,716,041,026 <i>k/</i>	<u>1,020,000,000</u>	<u>1,020,000,000</u>		<u>5,776,041,026</u>
Total PL 117 and PL 520	<u>\$ 5,846,041,026 <i>k/</i></u>	<u>\$ 1,020,000,000</u>	<u>\$ 1,020,000,000</u>		<u>\$ 5,866,041,026</u>

a/ Congressional appropriations of funds for stockpiling purposes.

b/ Congressional appropriations of contracting authority for a stockpiling purposes in advance of appropriation of funds.

c/ Congressional appropriations of contracting authority to liquidate outstanding obligations incurred under previously granted contract authority.

d/ Cumulative total of appropriated funds and advance contract authorization, less authorization to liquidate outstanding advance contracts.

e/ Excludes \$8,365,792 received from sale of a stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.

f/ Cancellation of previously authorized authority to make contracts.

g/ Excludes \$25,404,921 transferred to operating expenses for rehabilitation of Government-owned material producing plants.

h/ Excludes \$44,000 transferred to Transportation and Public Utilities Service, GSA.

i/ Excludes \$430,000 transferred to Transportation and Public Utilities Service, GSA and \$199,249,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.

j/ As of June 30, 1959 this amount included cash of \$52,150,792 and receivables of \$6,020,131.

k/ Excludes receipts from rotational sales.

SOURCE: GENERAL SERVICES ADMINISTRATION

TABLE 2 TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS

Under PL 117 and PL 520 for The National Stockpile

CUMULATIVE AND BY FISCAL PERIOD, THROUGH DECEMBER 31, 1960

FISCAL PERIOD	Obligations Incurred <u>A/</u>		Expenditures <u>B/</u>
	Net Change By Fiscal Period	Cumulative As of End of Period	
Prior to Fiscal Year 1948	\$ 123,871,685	\$ 123,871,685	\$ 66,330,731
Fiscal Year 1948	252,901,411	376,773,096	82,907,575
Fiscal Year 1949	459,766,881	836,539,977	304,486,177
Fiscal Year 1950	680,427,821	1,516,967,798	440,834,970
Fiscal Year 1951	2,075,317,099	3,592,284,897	655,537,199
Fiscal Year 1952	946,117,547	4,540,402,444	864,683,459
Fiscal Year 1953	252,375,163	4,792,777,607	906,158,850
Fiscal Year 1954	116,586,681	4,909,364,288	1,300,938,961
Fiscal Year 1955	321,799,833	5,231,164,121	644,760,321
Fiscal Year 1956 <u>C/</u>	251,692,667	5,482,856,788	801,310,084
Fiscal Year 1957	190,000,109	5,672,856,897	382,011,786 <u>C/</u>
Fiscal Year 1958	54,473,250	5,727,330,147	173,753,997
Fiscal Year 1959	38,710,879	5,766,041,026	65,260,098
Fiscal Year 1960	19,859,290	5,785,900,316	49,227,142
Fiscal Year 1961 - First Half	10,860,746	5,796,761,062	16,755,804

A/ Figures are the sum of obligations incurred under PL 520, 79th Congress and PL 117, 76th Congress.
C/ Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

B/ Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.

C/ Final expenditures under PL 117, 76th Congress were made in Fiscal Year 1951.

C/ 1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

Table 3 Expenditures of Stockpiling Funds, By Type
for the National Stockpile
Cumulative and for Fiscal Year 1961

Type of Expenditure	Cumulative Through June 30, 1960 <u>a/</u>	Six Months Ended December 31, 1960	Cumulative Through December 31, 1960 <u>a/</u>
Expenditures			
Gross Total	\$6,313,057,312	\$16,920,193	\$6,329,977,505
Less: Adjustments for Receipts from Rotation Sales and Reimbursements	541,218,355	167,389	541,385,744
Net Total	5,771,838,957	16,752,804	5,788,591,761
Material Acquisition Costs, Total	5,426,680,281	1,726,021	5,428,406,302
Stockpile Maintenance Costs, Total	302,304,803	12,725,042	315,029,845
Facility Construction	43,772,457	0	43,772,457
Storage and Handling Costs	182,703,104	8,011,067	190,714,171
Net Rotation Costs	75,829,242	4,713,975	80,543,217
Administrative Costs	41,644,897	1,464,596	43,109,493
Operations, Machine Tool Program	1,208,976	837,145	2,046,121

Cumulative figures are the total of expenditures under PL 117, 76th Congress and PL 520, 79th Congress. Expenditures under PL 117, 76th Congress totaled \$70,000,000, of which \$5,625,237 was for materials acquisition costs and \$14,374,763 was for other costs. Final expenditures under PL 117 were made in FY 1951.

SOURCE: GENERAL SERVICES ADMINISTRATION

Appendix B

CHANGES IN STOCKPILE SPECIFICATIONS JULY-DECEMBER, 1960

<i>Number</i>	<i>Item</i>	<i>Change</i>	<i>Effective date</i>
Purchase Specifications			
P-10-R2	Celestite	Revised	September 28
P-12-R1	Chromite—Refractory Grade	Revised	July 27
P-11a-R3	Ferrochromium—Low-Carbon.....	Revised	September 16
P-22a-R2	Graphite, Natural—Madagascar Crystalline.....	Revised	October 21
P-48a-R4	Rubber—Crude Natural	Revised	July 27
P-102	Tungsten Metal Powder (Carbon-Reduced).....	New	August 12
Container Specifications			
C-2	Grout Covering for Chromite Concentrates	Canceled	November 21
C-3	Grout Covering for Manganese Concentrates	Canceled	November 21
C-4	Grout Covering for Ferrochromium, Low-Carbon	Canceled	November 21
C-5	Grout Covering for Silicon Carbide	Canceled	November 21
C-6	Grout Covering for Fluorspar, Acid Grade.....	Canceled	November 21
C-7	Storage Trench	New	November 16
C-8	Coverings for Silicon Carbide and Ferrochromium--Low Carbon.....	New	December 16
C-9	Laminated Covering for Fluorspar, Acid Grade, Chromite Concentrates and Manganese Concentrates.....	New	November 16
C-10	Reinforced Asphalt Cover for Repairing and Waterproofing Grout Covered Stockpiles	New	November 16

Appendix C

SUMMARY OF GOVERNMENT INVENTORIES OF STRATEGIC AND CRITICAL MATERIALS AS OF DECEMBER 31, 1960

(Dollar values based on December 31, 1960, market prices)

Total of Maximum Objectives
for Strategic Stockpile
\$4,387,384,700

	Market value
I. Total Inventories:	
Strategic Stockpile.....	\$5,705,968,000
Defense Production Act.....	935,241,600
Supplemental Stockpile and Commodity Credit Corp. account.....	898,493,800
Federal Facilities Corp. (Tin).....	8,876,000
Grand total.....	7,548,579,400
II. Inventories Within Strategic Stockpile Objectives:	
Strategic Stockpile.....	3,976,090,500
Defense Production Act	155,828,200
Supplemental Stockpile and Commodity Credit Corp. account.....	212,754,800
Federal Facilities Corp. (Tin)	0
Total	4,344,673,500
III. Inventories Excess to Strategic Stockpile Needs (Includes Nonspecification Grades and Materials Without Objectives):	
Strategic Stockpile.....	^a 1,729,877,500
Defense Production Act.....	779,413,400
Supplemental Stockpile and Commodity Credit Corp. account.....	685,739,000
Federal Facilities Corp. (Tin)	8,876,000
Total	3,203,905,900

^a\$1,580,106,200 of this amount represents excess specification-grade inventories of some materials for which there are strategic stockpile objectives.

Appendix D

REPORTS ISSUED BY THE U. S. DEPARTMENT OF THE INTERIOR JULY-DECEMBER 1960

BUREAU OF MINES

Reports of Investigations

- 5590 Low Temperature Heat Capacities and Entropies at 298.15° K. of Strontium Sulfide and Barium Sulfide.
5629 Acid Leaching of Oxidized Copper Ores.
5630 Fused-Salt Electrorefining of Vanadium.
5634 Vapor Pressures of Liquid Manganese and Liquid Silver.
5638 Producing Nickel-Bearing Iron From Cuban Ores in a Batch Rotary Kiln.
5641 Laboratory Treatment of California and Nevada Manganese Ores by Sulfation Reduction and Other Methods.
5643 Hyatt Ranch Pegmatite, Larimer County, Colo.
5646 Flotation of Pacific Northwest Chromite Ores.
5657 Rapid Evaluation of Spodumene and Kyanite Samples by Heavy Liquid Separation.
5658 Infrared Spectra of Organic Compounds in the Region 15-35 Microns: Thirteen Organic Oxygen, Nitrogen, Sulfur and Silicon Compounds.
5664 Thermodynamics of Some Oxides of Molybdenum and Tungsten.
5667 Effect of Isomorphic Substitutions on Properties of Fluormica Ceramics.
5668 Thermodynamic Properties of the Combustion Products of Graphite and Oxygen in Idealized Dust Flames.
5682 Electrorefining Chromium.
5685 Acid Curing and Countercurrent Decantation Washing of an Oxidized Copper Ore From Pinai County, Ariz.
5686 Casting Technology for Titanium, Zirconium, and Hafnium.
5688 Zirconium-Dipropposium Equilibrium Diagram.
5692 Recovering Manganese From Mill Rejects.
5693 Fersmite: A Rare Calcium-Columbate Mineral From Montana.
5694 Shallow Lead Diggings, Grant and Lafayette Counties, Wisc.
5703 Removing Volatile Metals From Lead and Tin by Vacuum Distillation.

Information Circulars

- 7956 Mining Methods and Costs at Crystal-Victory and Minerva No. 1 Fluorspar Mines of Minerva Oil Co., Hardin County, Ill.
7993 Catalog of Recorded Exploration Drilling and Mine Workings, Tri-State Zinc-Lead District—Missouri, Kansas, and Oklahoma.

U. S. GEOLOGICAL SURVEY

Professional Papers

- 343 Geology and ore deposits of the Summitville district, San Juan Mountains, Colorado.
(Gold, copper, silver, lead)
-B Interpretation of the composition of trioctahedral micas.
A & B Geological Survey Research, 1960. (Asbestos, beryllium, copper, etc.)

Newsletter

- 082-E Strategic graphite, a survey.

Circular

427 A field instrument for quantitative determination of beryllium by activation analyses.

Maps

MF 234-235 Geochemical and heavy-mineral reconnaissance of the Concord Southeast quadrangle,
Cabarrus County, North Carolina. (Tungsten, copper, lead, zinc, molybdenum)
I-323 Progress map of the geology of Admiralty Island, Alaska. (Gold, copper, lead-zinc,
nickel-cobalt, asbestos)

Report and Map Placed on Open File for Inspection

Geology of the Jackson Mountains, Humboldt County, Nevada. (Copper, mercury)

Progress map of the geology of the Wiseman quadrangle, Alaska. (Copper, lead, zinc, antimony)